



DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

UNITED STATES FISH AND WILDLIFE SERVICE

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REPORT LISTS RESULTS OF 4,346 CHEMICAL TESTS IN LAMPREY CONTROL SEARCH

Painstaking routine and faithful observation were employed by Fish and Wildlife Service scientists in the all-out attack on the sea lamprey, Assistant Secretary of the Interior Ross L. Leffler said when he released Special Scientific Report--Fisheries No. 207, "Toxicity of 4,346 Chemicals to Lamprey and Fishes."

The goal of this phase of the campaign against the sea lamprey was to find a substance toxic to lamprey larvae but harmless to fish.

The report, strictly uninteresting to the casual reader but full of information for the industrial chemist, toxicologist, physiologist, fishery scientist and others with scientific interest, is largely an alphabetical listing of each chemical tested with its effect on specimens of lamprey larvae, trout and bluegills, beginning with acetaldehyde and ending with zinc silicofluoride.

Opposite the name of each chemical is the result of each 24-hour test, showing either negative results or the time necessary to kill or otherwise affect the objects of the test.

In addition to the 3,939 named chemicals there is a list of 407 compounds submitted by chemical companies but identified only by the company's own code.

The Fish and Wildlife Service researchers have discovered two chemicals which, in the laboratories, will kill lamprey larvae and not harm fingerling trout and young bluegills. These are being given rigid tests in the streams before definite pronouncements of their value will be made.

Sea lamprey showed up on Lake Huron more than 20 years ago and then moved into Lake Michigan. In each lake the lamprey has ruined the commercial trout fishery. In Lake Michigan the annual trout harvest dropped from 6,500,000 pounds in 1946 to a mere 34 pounds in 1955. In recent years the lamprey has entered Lake Superior and is seriously damaging the trout resource there.

The program to control the sea lamprey has developed along two major lines--the use of electric fences to kill adult lamprey as they attempt to enter their spawning streams, and the project to find a selective poison which will kill only lamprey larvae.

Lamprey larvae remain in the bottoms of the streams for six years before becoming the adult marauders which ruin lake trout fisheries. Hence, a successful poison plus the electrical blockade should rapidly reduce the lamprey population and aid in the rebuilding of the trout resources.

Canada and the United States and the affected Great Lakes States and Provinces are working cooperatively on the lamprey program under the direction of the Great Lakes Fishery Commission, an international body.

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